

OGDEN, UTAH, SATURDAY, JULY 3, 1915.

What War Engines Has Edison Up His Sleeve?

The Wizard Of Orange Says That His Secret Discoveries In Electricity And Gases Would Play A Great Part Should the United States be Invaded



A STUDY OF EDISON'S FACE

If the United States must defend itself in war and be attacked by a foreign foe, will Thomas Edison, wizard of electricity and master scientist, be able to drive back the attacking forces?

Could the wizard of West Orange, N. J., with the aid of his laboratory assistants kill the foreign hosts with deadly gases or explode their ammunition by electricity? What unknown invention has he up his sleeve?

In a recent interview Edison indicated that were the United States attacked he would devote his attention to our country's defense and would make war more deadly than it is at present.

"I can help make war worse than it is at present," the great inventor recently said.

How would Thomas Edison, the master mind of the century, the world's greatest inventor, make war more deadly than it is at present with poison gases killing thousands in the trenches in Europe? This he refuses to discuss but the answer is plain: by inventing or preparing more poisonous gases than those used at present? Edison says that the two great factors that will count in future wars are deadly gases and electricity.

FATAL TO SCIENTISTS.

Hydrocyanic acid has killed more scientists than any other agent. But one whiff of it is necessary to kill. Often professors in closed rooms have unthinkingly allowed the gases to accumulate and have been found dead. Several years ago a physician in Illinois, determined to kill himself, decided on hydrocyanic acid and to leave a last contribution to science, arranged so as to mark on a piece of paper a black dash for every second he lived after inhaling the gas. It is said that only ten marks were found on the paper. Edison may be able to invent gases more deadly even than hydrocyanic acid.

"Of course science can find many more effective ways of destroying life than by artillery and high explosives. The possibilities of chemistry and electricity have hardly yet been touched on in modern warfare. They can do a lot better," Edison recently said. "I could invent something more deadly than the gas bombs but I would rather make the world a better place to live in."

Speaking of the possibilities of warring nations using deadly bacilli the inventor said: "They haven't got to that yet, thank God. There must be relics of civilization still left in the very worst of them. Yet the rules of the game don't count for much these days. It's going to be just a reversion to an animal state. Things are bad enough as it is."

BAD ENOUGH NOW.

"The use of gases will be carried on to a much greater extent. Every time a new thing comes along the inventors take hold of it and improve it, but chemistry is playing a greater part in the present war than electricity."

"I do not think electricity could be used to prevent a torpedo reaching its mark. The torpedo moves in the water and would have to be especially so that it might be exploded before it struck a vessel, but the enemy is not going to construct such a torpedo. A torpedo's course may be controlled by the vessel that fires it as has already been proved, but the ship it strikes is powerless to halt its approach. A ship might be so fitted that it would not sink after being hit. I should not be surprised if a big change comes

about in ship construction, but we may be sure some way will be found to offset the torpedo. The submarine has been the greatest offensive weapon of this war and now the advent of the poisonous gases is another."

Speaking of the present war, Edison said:

"As a lay student of the situation it seems to me that the comparatively untrained Englishman has had an advantage from the start just because he has been untrained. This is a striking thing, with a big lesson in it, for the English soldier, I believe, may be regarded upon the whole, as the physical inferior of the German soldier. Too much military training not only availed Germany nothing, but actually proved to be her handicap."

AMERICAN INGENUITY COUNTS.

"Another thing which has been proved is that no engine of destruc-

tion or defense can be so effective that the ingenuity of desperate men cannot devise something which will offset it. Germany's new field guns, the secret of which had been so carefully kept, were the sensation of the war, yet France matched them before it was too late."

"In the unavoidable interpretation which one must place upon these facts is another reassurance for America. We are as clever at mechanics, whether they be those of war or those of peace, as any people of the world. We gave the world the iron-clad war vessel as the result of one emergency. We gave the world the submarine. Our Wright brothers perfected the aeroplane."

"If any foreign power should seriously consider an attack upon this country a hundred men of special training quickly would be at work here upon new means of repelling the invaders. I would be at it myself. There would be no lack of the spirit of determination or the spirit of self-sacrifice. Of these two qualities was the 'Spirit of '76' made up. It still is latent here."

"I believe that the developments of the European war have proved beyond the shadow of a doubt the

uselessness of large standing armies. The best work which has been done has been that of the English and French volunteers and the German landsturm."

"It has been a war of trench fighting. What does all the elaborate training of maneuvers count in trench work? And what does the fact that it counts little mean? Certainly that the world has wasted a vast amount of money in unnecessary military drill and useless fortifications. I cannot understand the situation in any other way."

"I do not wish any of these statements to lead readers to the belief that I would have my country neglect to realize the necessity of being able to defend itself. I merely wish to call attention to the lessons which the European war seems to me to teach."

"I consider it a reasonable certainty that some day we shall have a war; and I consider it a probability that when the day comes we shall find ourselves unprepared to meet it. I believe it to be the duty of every American patriot to do what he can to see that this does not occur, but I do not believe that the events of recent months in Europe

have shown their method of preparation to be the right one."

PLAN OF READINESS.

"Always we have done new things or done old things in a new way, and frequently they have been better things and better ways than Europe has developed. Why should we follow her lead in a military course which has proved to be disastrous to her?"

"The European plan of readiness for war really has provoked war. We should evolve a plan of readiness for war which would not do that, but which none the less would worthily protect us."

"We should not take our men from industry and overtrain them; but we should have 2,000,000 rifles ready, in perfect order, even greased, with armories equipped with the very best machinery to begin, upon short notice, in case the work should be required, the manufacture of a hundred thousand new firearms every day."

"We should not only have upon hand a large surplus stock of the best ammunition, but we should have government factories equipped to produce a thousand tons of high

explosive in a month if need arises. "We should have a thousand trenching engines ready and should be prepared with every other mechanical device for rapid defense. Of these things I am certain."

"But I do not in the least agree with the advocates of a great standing army or even of a great military reserve. I believe that, all other details having been looked after, we shall be quite safe if we maintain, as now is authorized, an army of, say, 100,000 men."

"With as many men as that with which to meet the first shock of an emergency, I believe that we could confidently count on volunteers to meet what might come later."

"We should organize our state militia upon really efficient lines. It is my belief that it should be under national, not state, control. The men who train it, whether their selection be left with the states or be the business of the national government, should be chosen with as much care as that with which I select men for important tasks in my laboratory."

"The development of such a method quickly would discover for us, in addition to our standing army, at least 25,000 men especially equipped by natural ability and taste to achieve military efficiency, and these would be drill sergeants, competent

to instruct quickly a vast number of soldiers in time of emergency."

"I have suggested 25,000 drill sergeants. We would be doing better if we had 40,000."

"What we want is a small army trained to a big knowledge and trained to teach it as well as to exercise it. Raw material for training is at hand. We have many millions of potential fighting men."

"We never must become a military nation in the old sense of the term, but I believe it possible that we may become one of the greatest of the military nations without burdening ourselves with any comparatively great, permanent military expense. Modern warfare is more a matter of machines than of men. Most of the machines are simple matters, if we compare them to the machines of industry."

"If we had machinery at hand with which to equip a million men we could find the million men upon 24 hours' notice. There is practically no military sentiment in the United States, nor ever has been, but we have proved ourselves to be among the world's most powerful fighters whenever we have had to fight."

RAILROAD SERVICE.

"What is true of our necessities for machinery is true, also, of our necessities for a great supply of

field pieces, large cannon and ammunition. We should have a large number of small factories, equipped and with the raw material at hand in quantities, but so stored as to avoid deterioration, ready to make the latest and most powerful explosives. We should have arsenals with an enormous capacity for the manufacture of large guns, and their facilities should be kept strictly up to date; we should have accurate knowledge of all shops and factories equipped to manufacture tools for defense, aeroplanes and all manner of accoutrements. We should have contracts with the owners permitting the commandeering of all such shops in case of war and at a given price for their use, and this should be true of all instrumentalities needed in case of war and instantly operated."

"We need not keep men employed in these shops out of more productive work in times of peace in order that they may be ready to give service if a war should come."

"We should carefully consider transportation in its changed conditions. The efficiency of the railroad is not, now, a matter of such vital moment for us as a means of moving troops, although, of course, the railroads must remain for many years the chief means by which heavy artillery and supplies will be moved."



THOMAS A. EDISON IN HIS WORKING CLOTHES



THOMAS A. EDISON, MRS. EDISON AND THEIR DAUGHTER